2012 Eco-City Alexandria Major Accomplishments

Accomplishments include the permanent closure of the GenOn power plant, highest-ever solid waste recycling rate of 48.4%, launch of Capital Bikeshare's eight bikeshare stations in Old Town, new hybrid trolleys and buses operated by DASH, installation of solar photovoltaic panels at Beatley Library, Witter Fields, four new City bus shelters and ARenew, continuing success of the Green Building Policy, sustainable construction practices at ARenew, development of 20 environmental indicators to measure Eco-City progress, and City's recognition by the Virginia Municipal League (VML) at the highest level, Platinum Level, as part of its Green Government Challenge.

Permanent Closure of the GenOn Potomac River Generating Station (PRGS) as of October 1, 2012 – The permanent closure of this outdated coal-fired power plant marks a significant milestone for the City of Alexandria and its residents. For several years, this plant has been the single largest air pollutant source in the Northern Virginia region. At the peak of its production during the period 2001-2003, this power plant emitted some 15,000 tons of sulfur dioxide, 6,000 tons of nitrogen oxides and 600 tons of PM_{10} annually. In addition, it emitted about 2.5 million tons of carbon dioxide annually. The electricity produced by this plant can be replaced by more efficient power plants using cleaner fuels such as natural gas or renewable energy sources, resulting in significant reduction in greenhouse gas emissions to the atmosphere. This plant closure is a community success and a good example of how a local government and its citizens can work together to address and resolve community-wide issue.

Highest-Ever Solid Waste Recycling Rate - The City reported its highest ever recycling rate of 48.4% to the Virginia DEQ for CY 2011. This significant increase over last year's reported 41.4% recycling rate was due primarily to significant increases in overall recycling collections. The City also partnered with a local non-profit foundation to recycle 110 tons of electronic items including 2,271 televisions and computer monitors. City residents dropped off 38,000 Gallons of Toxic Waste during 2012 thanks to the extended open hours of the Household Hazardous Waste Collection Center. The material is reprocessed for fuel, incinerated, or land-filled at Environmental Protection Agency approved facilities located outside of Alexandria.

Capital Bikeshare Established – The City launched its participation in the Capital Bikeshare Network with the installation of eight bikeshare stations in the Old Town area. Capital Bikeshare Network is the largest bikeshare system in the country, with over 180 stations in the region, and more than 1,600 bicycles. Using Capital Bikeshare is an easy, environmentally-friendly and healthy way to get around Alexandria and enjoy the historic landscape of the city.

Alexandria Transit Company's New DASH Buses and Trolleys - In April 2012, Alexandria Transit Company (ATC), the operator of DASH, took over operation of the King Street Trolley using five brand new 30-foot low-floor hybrid electric trolleys. The trolleys operate on an environmentally friendly mix of ultra-low sulfur clean diesel and electricity, and feature new amenities such as low floor entry and bike racks in addition to a much quieter and smoother ride. The new and improved King Street Trolley

has been a great success since its launch on April 22, 2012, and continues to gain in popularity. Since ATC started operating the King Street Trolley, monthly ridership has grown significantly, increasing over 65%, between May and September 2012. Riders are enjoying the comfort and quiet of the new trolleys, along with the reliable service and customer friendly drivers. In November 2012, ATC took delivery of ten new 40-foot hybrid electric low floor transit buses. With these new buses, over 30% of DASH's fleet is powered by hybrid electric drive train.

Reducing Commuter Trips through Commuter Challenge - During the First Annual City of Alexandria Commuter Challenge, nine companies representing over 1,200 employees participated in a fun and friendly month-long competition to encourage participants to drive alone less and use alternative transportation modes (i.e. transit, carpool, vanpool, walk, or bike). The Challenge amounted to 68,085 fewer vehicle miles traveled (VMTs) compared to driving alone. The winning company of the overall Challenge was Cuisine Solutions, which saw a reduction of 59,744 VMT and an average of 2.06 days per week traveled through an alternative mode of transportation.

High Capacity Transit Corridor Implementation - Alexandria is making progress on the implementation of High Capacity Transit throughout the City. High Capacity Transit will provide more frequent, reliable and faster transit service along three corridors, connecting to major activity centers and Metrorail stations. The City is underway with construction of the Route 1 Transitway (Corridor A) that will allow for Bus Rapid Transit to operate between Pentagon City and the Braddock Metrorail station. The service is anticipated to begin in early 2014. Meanwhile, the City has also recently completed the Transitway Corridors Feasibility Study, that recommended the alignments and modes for Corridor B (Duke Street) and Corridor C (Beauregard/Van Dorn). Corridor C, which has the highest priority after Corridor A, will undergo an environmental study over the next two years prior to construction. Corridor C Bus Rapid Transit service between the Van Dorn Metrorail station and the Pentagon is anticipated to begin operation by 2018.

Environmental Indicators - The City and Alexandria Environmental Policy Commission developed 20 environmental indicators that can be measured on a routine basis to quantify the progress made on the Eco-City initiative. For instance, City government operations reduced their energy usage by about 20% over the period from FY2006 to FY2010. This reduction reflects ongoing energy conservation efforts at both the Alexandria City Public Schools and the City government. As a result, greenhouse gas (GHG) emissions from City government operations (Indicator #4) reduced by 18% over the period 2005-2010. In sharp contrast, the greenhouse gas emissions by residents and businesses (Indicator #5) increased by 4% from 2005 to 2010 resulting in an increase in the per capita GHG emissions (indicator #6) by 2% going from 2005 to 2010. Since greenhouse gas emissions from City government operations account for only 4% of the total GHG emitted from the city, activities by residents and businesses have by far, the most impacts on these emissions. Thus, increased participation and commitment from residents and businesses are essential to Alexandria's success in reducing GHG emissions.

Green Building Policy - The Green Building Policy approved by City Council in 2009 has been successful in ensuring new developments commit to obtaining a minimum level of green building certification. Over the last year, some of the notable projects that have been reviewed per the policy

and will obtain a green building certification include: three residential buildings totaling 492 units with ground floor retail (Landmark Gateway), a 69,000 square-feet (sf) grocery store with 253 residential units (Giant in Potomac Yard), a 130,000 sf school (Jefferson Houston), a 370,000 sf office building (IDA in Potomac Yard) and a 39,000 sf fire station (Eisenhower Avenue Fire Station).

Alexandria Renew Expansion and Carlyle Plaza Two Development – The wastewater treatment authority, Alexandria Renew, finalized development plans for the expansion of their facility and will begin construction in 2013. These improvements will help Alexandria Renew meet stricter Federal and State environmental standards, which will lower the amount of nutrients released to the water systems, and improve the efficiency of the overall plant. In addition, the main structure/tank proposed with the expansion has been designed to accommodate a regulation size athletic field on top. This plan has been coordinated with the mixed used development north of the site, Carlyle Plaza Two, which will provide an additional two acres of public open space and pedestrian/bike trails. This development, which was approved in June 2012, will include a large biowall that provides an innovative solution to stormwater management that is designed as a focal element for the site. The three buildings will also comply with the Green Building Policy.

Sustainable Construction at ARenew - ARenew received the National Association of Clean Water Agencies (NACWA) Platinum Excellence in Management Recognition award in 2012. It is currently going through a multi-phase facility upgrade called the State-of-the-Art Nitrogen Upgrade Program (SANUP) to enhance its ability to remove nitrogen from wastewater. As part of the program goals, it incorporated sustainable requirements directly into the construction contract documents, encouraging environmentally responsible behaviors and the use of green resources. Contractors are required to report their efforts on a monthly Sustainable Construction Log. The results for 2012 have been quite impressive:

- Contractors used over 3,500 gallons of biodiesel and recycled 600 pounds of paper and plastic.
- 97% of the construction waste generated has been recycled or salvaged - that's over 1,200 tons. Contractors were able to reuse 35,000 pounds of lumber and 2,000 tons of concrete.
- Contractor trailers used high efficiency lighting, low flow toilets and energy-saving mode on computers and photocopiers.

ARenew Re-Utilization of Biosolids Produced at Its Treatment Plant - ARenew reused approximately 22,100 tons of biosolids on agricultural farmland in Virginia, thereby reducing the need for commercial fertilizers and saving farmers approximately $300 per acre. "George's Old Town Blend" is a soil amendment product made from a blend of ARenew biosolids and woody waste material. Over 44 tons of this beneficial biosolids reuse product was used in various projects around the facility including landscaping and an onsite vegetable garden demonstration project (managed by ARenew staff volunteers) where nearly 150 pounds of vegetables were harvested.

Beatley Central Library Solar Photovoltaic System - The City and the Alexandria Library worked jointly to complete installation of a solar photovoltaic system at the Beatley Central Library. Converting sunlight to electricity, the 42.3 Kilowatt system features 180 solar panels that spread across each of Beatley's five south-facing roof sections. The solar photovoltaic system helps offset a portion of the building's electricity consumption and peak demand, as well as reduces the City's greenhouse gas emissions. The solar photovoltaic system is the first on a City building and supports the vision of the City's Eco-City Charter and Environmental Action Plan goals. This installation was made possible by an

American Recovery and Reinvestment Act Grant from the US Department of Energy. Other environmental initiatives at the Alexandria Library include the following:

- Installation of LED energy efficient lighting at Duncan and Beatley libraries;
- Dedication of a book section to Eco-City Alexandria to make eco-city documents easily accessible for all residents at the Beatley Library. The goal is to place them in the other three library branches;
- All Alexandria Reads, community read program centered on the book "The Boy Who Harnessed the Wind". More than 8,800 children and adults pledged to read the book. Over 1200 individuals attended programs that focused on the book's environmental themes.
- Participation in the Environmental Film Festival, hosting several films that highlighted eco issues.

Solar Panels for New Witter Fields Facility - The new restroom building at Witter Recreational Fields is the first park structure to include solar panels in the City of Alexandria. Although the building is small at 500 square feet, it was important to the City to incorporate green technologies including solar panels, architectural elements to capture natural daylight and energy efficient fixtures. The solar panels will help to offset energy costs to run the new facility.

Pervious Trail Surfacing Installed - In early August 2012, the City installed a 580 foot pervious "Flexi-Pave" trail through Dora Kelley Park, improving the connection to Chambliss Park. Prior to installation, the trail frequently flooded and was very uneven. However, the Park is located in a resource protection area, limiting the type of surface material that could be used. The new Flexi-pave surface material was selected and installed because it has continuous voids to allow stormwater to pass through, reducing the frequent flooding and erosion issues. Additionally, the material used for the new trail is comprised of 1,597 recycled rubber passenger tires (if stacked in a landfill the tires would be 1,300 feet tall). The flat surface is now greatly used by cyclists, pedestrians, and parents with strollers.

Bicycle and Pedestrian Trail Construction – The City completed several bicycle and pedestrian projects in 2012 aimed at making bicycling and walking safer. The Charles Barrett Safe Routes to School Project completed construction in October 2012. The project included shortened pedestrian crossings through geometric reconfiguration of intersections by the school, sidewalk installation, and parking changes. In Jones Point Park, the Mount Vernon Trail has been constructed with new park and trail connections at North Royal Street linking North Royal Bike Route to Woodrow Wilson Bridge Trail. For the Dora Kelley Park Trail, an eco-friendly material has been used for trail surface.

City of Alexandria Achieves VML Platinum Level Certification for the Fifth Consecutive Year - For the fifth straight year, the City of Alexandria earned Platinum level certification, the highest level of recognition by the Virginia Municipal League (VML) as part of its Green Government Challenge. This certification by VML reaffirms the City's long term commitment to the Eco-City Alexandria initiative, and achieving environmental sustainability throughout the City.